

## SEQUENCE LISTING

<110> Kloek, Andrew BADEW Williams, Deryck Jeremy Salmon, Brandy Leigh Bradley, John D.

<120> NEMATODE PGM-LIKE SEQUENCES

<130> 12557-003001

<140> US 10/082,894

<141> 2002-02-26

<150> US 60/271,781

<151> 2001-02-27

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|------------|------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| -          | _          |   | Met | Asp | Lys | Tyr | Gln | Asn | Val | Gln | Gln | Lys |    |
|            |            |   | 1   |     |     |     | 5   |     |     |     |     | 10  |    |

gtc tgt ctt gta gtt att gat gga tgg ggc ctt tcc gat gaa caa cac 99
Val Cys Leu Val Val Ile Asp Gly Trp Gly Leu Ser Asp Glu Gln His
15 20 25

ggg aat gca att gct aaa gct aaa acg cct att atg gac aaa ctt tgt
Gly Asn Ala Ile Ala Lys Ala Lys Thr Pro Ile Met Asp Lys Leu Cys
30 35 40

tct gga aat tgg caa aaa ttg gaa gca cac ggt ctt cat gtt gga ttg

Ser Gly Asn Trp Gln Lys Leu Glu Ala His Gly Leu His Val Gly Leu

45

50

55

cca gaa ggc tta atg gga aat tct gaa gtt gga cat ttg aat ata gga 243
Pro Glu Gly Leu Met Gly Asn Ser Glu Val Gly His Leu Asn Ile Gly
60 65 70

gct gga aga gtt att tat caa gat att gtt cga att aat ttg gct gtt 291
Ala Gly Arg Val Ile Tyr Gln Asp Ile Val Arg Ile Asn Leu Ala Val
75 80 85 90

| caa<br>Gln        | cga<br>Arg        | aac<br>Asn        | gag<br>Glu        | ttt<br>Phe<br>95  | gtt<br>Val        | aca<br>Thr        | aat<br>Asn        | cct<br>Pro        | cag<br>Gln<br>100 | att<br>Ile        | gtt<br>Val        | gca<br>Ala        | tca<br>Ser        | gct<br>Ala<br>105 | gag<br>Glu        | 339 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----|
| cgt<br>Arg        | gca<br>Ala        | aag<br>Lys        | aag<br>Lys<br>110 | Gly               | agt<br>Ser        | ggt<br>Gly        | cga<br>Arg        | ttg<br>Leu<br>115 | cat<br>His        | tta<br>Leu        | tta<br>Leu        | gga<br>Gly        | ctg<br>Leu<br>120 | gtt<br>Val        | agc<br>Ser        | 387 |
| gat<br>Asp        | ggt<br>Gly        | ggt<br>Gly<br>125 | gtc<br>Val        | cac<br>His        | tct<br>Ser        | cat<br>His        | att<br>Ile<br>130 | gat<br>Asp        | cat<br>His        | ctt<br>Leu        | ttt<br>Phe        | gcg<br>Ala<br>135 | ttg<br>Leu        | ata<br>Ile        | cgt<br>Arg        | 435 |
| gca<br>Ala        | ttt<br>Phe<br>140 | aaa<br>Lys        | caa<br>Gln        | tta<br>Leu        | caa<br>Gln        | gtg<br>Val<br>145 | cca<br>Pro        | aag<br>Lys        | gtt<br>Val        | ttc<br>Phe        | att<br>Ile<br>150 | cac<br>His        | ttt<br>Phe        | ttt<br>Phe        | gct<br>Ala        | 483 |
| gat<br>Asp<br>155 | ggt<br>Gly        | cga<br>Arg        | gat<br>Asp        | act<br>Thr        | tcg<br>Ser<br>160 | cca<br>Pro        | aca<br>Thr        | agt<br>Ser        | gga<br>Gly        | gct<br>Ala<br>165 | ggt<br>Gly        | tat<br>Tyr        | ctt<br>Leu        | gaa<br>Glu        | caa<br>Gln<br>170 | 531 |
|                   |                   |                   |                   |                   |                   | tcg<br>Ser        |                   |                   |                   |                   |                   |                   |                   |                   |                   | 579 |
|                   |                   |                   |                   |                   |                   | atg<br>Met        |                   |                   |                   |                   |                   |                   |                   |                   |                   | 627 |
| aag<br>Lys        | atg<br>Met        | gct<br>Ala<br>205 | tat<br>Tyr        | gag<br>Glu        | gca<br>Ala        | att<br>Ile        | gtt<br>Val<br>210 | gga<br>Gly        | ggt<br>Gly        | att<br>Ile        | gga<br>Gly        | caa<br>Gln<br>215 | aaa<br>Lys        | gcc<br>Ala        | acc<br>Thr        | 675 |
| gtt<br>Val        | gat<br>Asp<br>220 | aag<br>Lys        | gct<br>Ala        | gtc<br>Val        | gat<br>Asp        | gtt<br>Val<br>225 | gtt<br>Val        | aga<br>Arg        | gag<br>Glu        | cga<br>Arg        | tat<br>Tyr<br>230 | gct<br>Ala        | caa<br>Gln        | tct<br>Ser        | gag<br>Glu        | 723 |
|                   |                   |                   |                   |                   |                   | cca<br>Pro        |                   |                   |                   |                   |                   |                   |                   |                   |                   | 771 |
| aaa<br>Lys        | gat<br>Asp        | gac<br>Asp        | gat<br>Asp        | act<br>Thr<br>255 | ctt<br>Leu        | att<br>Ile        | ttc<br>Phe        | ttc<br>Phe        | aat<br>Asn<br>260 | tat<br>Tyr        | cgt<br>Arg        | gct<br>Ala        | gat<br>Asp        | cgt<br>Arg<br>265 | atg<br>Met        | 819 |
| cgt<br>Arg        | caa<br>Gln        | att<br>Ile        | tgt<br>Cys<br>270 | gaa<br>Glu        | tgt<br>Cys        | ttg<br>Leu        | ggt<br>Gly        | ctc<br>Leu<br>275 | gaa<br>Glu        | cgt<br>Arg        | tat<br>Tyr        | aaa<br>Lys        | gat<br>Asp<br>280 | ctt<br>Leu        | aat<br>Asn        | 867 |
|                   |                   |                   |                   |                   |                   | aaa<br>Lys        |                   |                   |                   |                   |                   |                   |                   |                   |                   | 915 |
|                   |                   |                   |                   |                   |                   | ttt<br>Phe<br>305 |                   |                   |                   |                   |                   |                   |                   |                   |                   | 963 |

| act<br>Thr<br>315 | aat<br>Asn        | gtg<br>Val        | ctt<br>Leu        | gct<br>Ala        | gaa<br>Glu<br>320 | tgg<br>Trp        | ctt<br>Leu        | gct<br>Ala        | tct<br>Ser        | caa<br>Gln<br>325 | gga<br>Gly        | gtt<br>Val        | act<br>Thr        | caa<br>Gln        | ttt<br>Phe<br>330 | 1011 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| cac<br>His        | tgt<br>Cys        | gcg<br>Ala        | gaa<br>Glu        | act<br>Thr<br>335 | gag<br>Glu        | aag<br>Lys        | tat<br>Tyr        | cct<br>Pro        | cat<br>His<br>340 | gtt<br>Val        | acc<br>Thr        | ttc<br>Phe        | ttc<br>Phe        | ttt<br>Phe<br>345 | aat<br>Asn        | 1059 |
| ggt<br>Gly        | ggt<br>Gly        | cga<br>Arg        | gaa<br>Glu<br>350 | gtt<br>Val        | caa<br>Gln        | ttc<br>Phe        | caa<br>Gln        | gat<br>Asp<br>355 | gaa<br>Glu        | gag<br>Glu        | cgt<br>Arg        | tgt<br>Cys        | atg<br>Met<br>360 | gtt<br>Val        | ccg<br>Pro        | 1107 |
| tca<br>Ser        | cca<br>Pro        | aaa<br>Lys<br>365 | gaa<br>Glu        | gtt<br>Val        | gct<br>Ala        | aca<br>Thr        | tat<br>Tyr<br>370 | gat<br>Asp        | tta<br>Leu        | aaa<br>Lys        | cca<br>Pro        | gaa<br>Glu<br>375 | atg<br>Met        | aat<br>Asn        | gct<br>Ala        | 1155 |
| gct<br>Ala        | gga<br>Gly<br>380 | gtt<br>Val        | gcc<br>Ala        | gaa<br>Glu        | aaa<br>Lys        | atg<br>Met<br>385 | gtc<br>Val        | gag<br>Glu        | caa<br>Gln        | att<br>Ile        | gag<br>Glu<br>390 | tca<br>Ser        | ggc<br>Gly        | agg<br>Arg        | cat<br>His        | 1203 |
| cct<br>Pro<br>395 | ttg<br>Leu        | gtt<br>Val        | atg<br>Met        | tgc<br>Cys        | aat<br>Asn<br>400 | ttt<br>Phe        | gcg<br>Ala        | cct<br>Pro        | cct<br>Pro        | gac<br>Asp<br>405 | atg<br>Met        | gtt<br>Val        | gga<br>Gly        | cat<br>His        | act<br>Thr<br>410 | 1251 |
| ggt<br>Gly        | aaa<br>Lys        | ttt<br>Phe        | gaa<br>Glu        | cct<br>Pro<br>415 | gcc<br>Ala        | gtc<br>Val        | aaa<br>Lys        | gca<br>Ala        | tgt<br>Cys<br>420 | caa<br>Gln        | gct<br>Ala        | act<br>Thr        | gac<br>Asp        | gag<br>Glu<br>425 | gca<br>Ala        | 1299 |
| att<br>Ile        | gga<br>Gly        | aag<br>Lys        | ata<br>Ile<br>430 | ttt<br>Phe        | gaa<br>Glu        | gca<br>Ala        | tgc<br>Cys        | caa<br>Gln<br>435 | act<br>Thr        | tat<br>Tyr        | aat<br>Asn        | tac<br>Tyr        | gtt<br>Val<br>440 | ctt<br>Leu        | atg<br>Met        | 1347 |
| gtt<br>Val        | act<br>Thr        | tcc<br>Ser<br>445 | gat<br>Asp        | cat<br>His        | gga<br>Gly        | aat<br>Asn        | gct<br>Ala<br>450 | gag<br>Glu        | aag<br>Lys        | atg<br>Met        | att<br>Ile        | gct<br>Ala<br>455 | ccc<br>Pro        | gat<br>Asp        | ggt<br>Gly        | 1395 |
| agt<br>Ser        | gaa<br>Glu<br>460 | cat<br>His        | act<br>Thr        | gca<br>Ala        | cat<br>His        | acc<br>Thr<br>465 | tgc<br>Cys        | aat<br>Asn        | ttg<br>Leu        | gtc<br>Val        | cca<br>Pro<br>470 | ttt<br>Phe        | act<br>Thr        | tgc<br>Cys        | tct<br>Ser        | 1443 |
| tcc<br>Ser<br>475 | aaa<br>Lys        | aca<br>Thr        | ttt<br>Phe        | gtt<br>Val        | ttt<br>Phe<br>480 | aaa<br>Lys        | tcg<br>Ser        | act<br>Thr        | cca<br>Pro        | cct<br>Pro<br>485 | act<br>Thr        | gga<br>Gly        | gat<br>Asp        | gat<br>Asp        | ggc<br>Gly<br>490 | 1491 |
| aaa<br>Lys        | gaa<br>Glu        | cgt<br>Arg        | gca<br>Ala        | cga<br>Arg<br>495 | gcc<br>Ala        | tta<br>Leu        | cgt<br>Arg        | gat<br>Asp        | gtt<br>Val<br>500 | gca<br>Ala        | ccg<br>Pro        | act<br>Thr        | gtt<br>Val        | cta<br>Leu<br>505 | caa<br>Gln        | 1539 |
| tta<br>Leu        | atg<br>Met        | ggc<br>Gly        | tta<br>Leu<br>510 | cct<br>Pro        | gta<br>Val        | ccg<br>Pro        | ccg<br>Pro        | gag<br>Glu<br>515 | atg<br>Met        | gat<br>Asp        | ggc<br>Gly        | gtt<br>Val        | cct<br>Pro<br>520 | tta<br>Leu        | ctt<br>Leu        | 1587 |
|                   | cag<br>Gln        |                   |                   | taaq              | gaagt             | ta a              | attga             | acaat             | ca go             | gaaat             | taaat             | ato               | gagct             | igct              |                   | 1639 |

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375

370

380

Met Val Glu Gln Ile Glu Ser Gly Arg His Pro Leu Val Met Cys Asn 390 395 385 Phe Ala Pro Pro Asp Met Val Gly His Thr Gly Lys Phe Glu Pro Ala 405 Val Lys Ala Cys Gln Ala Thr Asp Glu Ala Ile Gly Lys Ile Phe Glu 425 Ala Cys Gln Thr Tyr Asn Tyr Val Leu Met Val Thr Ser Asp His Gly 440 Asn Ala Glu Lys Met Ile Ala Pro Asp Gly Ser Glu His Thr Ala His 455 460 Thr Cys Asn Leu Val Pro Phe Thr Cys Ser Ser Lys Thr Phe Val Phe 470 475 Lys Ser Thr Pro Pro Thr Gly Asp Asp Gly Lys Glu Arg Ala Arg Ala 490 Leu Arg Asp Val Ala Pro Thr Val Leu Gln Leu Met Gly Leu Pro Val 505 Pro Pro Glu Met Asp Gly Val Pro Leu Leu Glu Gln Arg Gly 520 <210> 3 <211> 539 <212> PRT <213> Caenorhabidits elegans PGM <400> 3

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Val Ala Tyr Glu Ala Met Ile Gly Gly Val Gly Glu Thr Ser Asp Glu

Ala Gly Val Val Glu Val Val Arg Lys Arg Tyr Ala Ala Asp Glu Thr

235

250

230

245

Asp Glu Phe Leu Lys Pro Ile Ile Leu Gln Gly Glu Lys Gly Arg Val

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Arg Glu Ile Ser Ala Ala Met Gly Met Asp Arg Tyr Lys Asp Cys Asn
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                                            300
Ser Lys Leu Ala His Pro Ser Asn Leu Gln Val Tyr Gly Met Thr Gln
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                                        315
Tyr Lys Ala Glu Phe Pro Phe Lys Ser Leu Phe Pro Pro Ala Ser Asn
                                    330
Lys Asn Val Leu Ala Glu Trp Leu Ala Glu Gln Lys Val Ser Gln Phe
            340
                                345
His Cys Ala Glu Thr Glu Lys Tyr Ala His Val Thr Phe Phe Asn
                            360
                                                365
Gly Gly Leu Glu Lys Gln Phe Glu Gly Glu Glu Arg Cys Leu Val Pro
                        375
Ser Pro Lys Val Ala Thr Tyr Asp Leu Gln Pro Glu Met Ser Ala Ala
                                        395
Gly Val Ala Asp Lys Met Ile Glu Gln Leu Glu Ala Gly Thr His Pro
                405
                                    410
Phe Ile Met Cys Asn Phe Ala Pro Pro Asp Met Val Gly His Thr Gly
            420
                                425
Val Tyr Glu Ala Ala Val Lys Ala Cys Glu Ala Thr Asp Ile Ala Ile
                                                445
                           440
Gly Arg Ile Tyr Glu Ala Thr Gln Lys His Gly Tyr Ser Leu Met Val
                       455
                                            460
Thr Ala Asp His Gly Asn Ala Glu Lys Met Lys Ala Pro Asp Gly Gly
                                        475
                   470
Lys His Thr Ala His Thr Cys Tyr Arg Val Pro Leu Thr Leu Ser His
                                    490
Pro Gly Phe Lys Phe Val Asp Pro Ala Asp Arg His Pro Ala Leu Cys
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Asp Val Ala Pro Thr Val Leu Ala Ile Met Gly Leu Pro Gln Pro Ala
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Glu Met Thr Gly Val Ser Ile Val Gln Lys Ile
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Ala Lys Thr Pro Ile Met Asp Lys Leu Cys Ser Gly Asn Trp Gln Lys
Leu Glu Ala His Gly Leu His Val Gly Leu Pro Glu Gly Leu Met Gly
                         55
Asn Ser Glu Val Gly His Leu Asn Ile Gly Ala Gly Arg Val Ile Tyr
Gln Asp Ile Val Arg Ile Asn Leu Ala Val Gln Arg Asn Glu Phe Val
                                     90
Thr Asn Pro Gln Ile Val Ala Ser Ala Glu Arg Ala Lys Lys Gly Ser
            100
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Gly Arg Leu His Leu Leu Gly Leu Val Ser Asp Gly Gly Val His Ser 120 125 His Ile Asp His Leu Phe Ala Leu Ile Arg Ala Phe Lys Gln Leu Gln 135 Val Pro Lys Val Phe Ile His Phe Phe Ala Asp Gly Arg Asp Thr Ser 150 155 Pro Thr Ser Gly Ala Gly Tyr Leu Glu Gln Leu Leu Gln Phe Ile Ala 170 165 Ser Glu Lys Tyr Gly Glu Leu Ala Thr Ile Thr Gly Arg Tyr Tyr Ala 185 Met Asp Arg Asp Lys Arg Trp Glu Arg Ile Lys Met Ala Tyr Glu Ala 200 Ile Val Gly Gly Ile Gly Gln Lys Ala Thr Val Asp Lys Ala Val Asp 215 220 Val Val Arg Glu Arg Tyr Ala Gln Ser Glu Thr Asp Glu Phe Leu Lys 235 230 Pro Ile Val Phe Ser Asp Asp Gly Arg Val Lys Asp Asp Asp Thr Leu 250 Ile Phe Phe Asn Tyr Arg Ala Asp Arg Met Arg Gln Ile Cys Glu Cys 265 270 Leu Gly Leu Glu Arg Tyr Lys Asp Leu Asn Ser Ser Val Pro His Pro 280 Lys Asn Ile Gln Ile Ser Gly Met Thr Gln Tyr Asn Lys Glu Phe Pro 295 300 Phe Pro Ser Leu Phe Pro Pro Val Thr His Thr Asn Val Leu Ala Glu 310 315 Trp Leu Ala Ser Gln Gly Val Thr Gln Phe His Cys Ala Glu Thr Glu 330 325 Lys Tyr Pro His Val Thr Phe Phe Asn Gly Gly Arg Glu Val Gln 345 Phe Gln Asp Glu Glu Arg Cys Met Val Pro Ser Pro Lys Glu Val Ala 360 Thr Tyr Asp Leu Lys Pro Glu Met Asn Ala Ala Gly Val Ala Glu Lys 375 380 Met Val Glu Gln Ile Glu Ser Gly Arg His Pro Leu Val Met Cys Asn 390 395 Phe Ala Pro Pro Asp Met Val Gly His Thr Gly Lys Phe Glu Pro Ala 410 Val Lys Ala Cys Gln Ala Thr Asp Glu Ala Ile Gly Lys Ile Phe Glu 420 425 430 Ala Cys Gln Thr Tyr Asn Tyr Val Leu Met Val Thr Ser Asp His Gly 440 445 Asn Ala Glu Lys Met Ile Ala Pro Asp Gly Ser Glu His Thr Ala His 455 460 Thr Cys Asn Leu Val Pro Phe Thr Cys Ser Ser Lys Thr Phe Val Phe 470 475 Lys Ser Thr Pro Pro Thr Gly Asp Asp Gly Lys Glu Arg Ala Arg Ala 490 Leu Arg Asp Val Ala Pro Thr Val Leu Gln Leu Met Gly Leu Pro Val 505 Pro Pro Glu Met Asp Gly Val Pro Leu Leu Glu Gln Arg Gly

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| •              |  |    |
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| 40005          |  |    |
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| \2237          | University primer to pory it earr                |    |
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